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29 June 1960

FROM: Satellite Intelligence Requirements Committee

SUBJ: Transmittal of Intelligence Requirements for Satellite Reconnaissance Systems of which SAMOS is an Example

TO: SECRETARY, United States Intelligence Board

1. Attached hereto is a revised copy of the subject requirement with recommended changes made by the USIB on 28 June 1960.

2. These revised requirements were originally the Intelligence Requirements for SENTRY dated 10 November 1958 which were forwarded by the ACS/Intelligence, USAF to ARPA, ARDC, BMD and SAC and are at present the basis for the SAMOS research and development program.

3. In the interest of imparting a great degree of impetus and restating the utmost concern of the community for the early employment of a reconnaissance satellite, it is recommended the attached letter, subject: Intelligence Requirements for Satellite Reconnaissance Systems of which SAMOS is an Example, be signed and forwarded to the Secretary of Defense.*

Lowell E. May

LOWELL E. MAY
Colonel, USAF
Chairman, Satellite Intelligence
Requirements Committee

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Proposed ltr to Sec of
Defense

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*The OSD, SIRC member suggests that the attached letter be forwarded to the OSD member of USIB rather than to the Secretary of Defense.

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The Honorable Thomas S. Gates
The Secretary of Defense
Department of Defense
Washington, D. C.

Dear Mr. Secretary:

The United States Intelligence Board has considered two major areas relating to the development and employment of the SAMOS reconnaissance system. The first of these areas is the consolidation of the general intelligence requirements of the various departments, services and agencies of the United States to serve as the overall basis for the SAMOS system development. The second of these areas is to establish priorities for the system developers and for the employment of the SAMOS system in the development stage during the 1961-1962 time period. These requirements and priorities are set forth in the attached paper entitled: "Intelligence Requirements for Satellite Reconnaissance Systems of which SAMOS is an Example".

The fulfillment of these requirements as expressed is considered critical to the security of the United States, this is also evidenced by the national priority established for SAMOS.

Sincerely,

Allen W. Dulles
Chairman

INTELLIGENCE REQUIREMENTS FOR SATELLITE RECONNAISSANCE SYSTEM OF WHICH SAMOS IS AN EXAMPLE

1. The United States has, and will continue to have for the foreseeable future, a high priority requirement for photographic and electronic reconnaissance of the Soviet Union and other denied areas. In theory, it is feasible to conduct a large amount of this reconnaissance in a number of different ways, but this feasibility will be affected from time to time by technical and political considerations that might make it difficult or impossible to use all of the theoretically feasible means. Although a satellite reconnaissance system has not yet been operationally demonstrated and is not likely in the near term to produce the quality of information that can be obtained by other systems, on balance, it should be able to perform a number of reconnaissance tasks better than other systems and should be able to produce useful information on the great majority of intelligence questions against which reconnaissance systems might be employed. A satellite reconnaissance system might also be less affected by some of the political considerations affecting other reconnaissance systems. The U. S. Intelligence Board considers it essential, therefore, that the United States develop and maintain an operational satellite reconnaissance system with a wide range of capabilities.

2. The intelligence situation facing the United States will continue to be highly dynamic, influenced both by changes in Soviet capabilities and

our own intelligence assets, making it impossible to specify at any one time the precise nature of the satellite reconnaissance system that will be required in the distant future. As stated in paragraph 1 above, however, we are sure that there will exist an urgent requirement for a satellite reconnaissance system throughout the foreseeable future.

3. The photographic system must be capable of obtaining coverage of denied areas at object resolutions of [redacted] 25X1

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for R&D design objectives will be utilized and exploited for intelligence purposes to the maximum extent possible. (See Annex "A" for examples of objects that can be identified at these resolutions.) The system must provide for repeat coverage of targets at these various resolutions, depending on the nature of the target and the intelligence problem involved. The periodicity of this repeat coverage will also depend on the nature of the target and the intelligence situation, as well as on other sources that can be brought to bear on it. The anticipated frequency can be predicted more precisely as the intelligence situation develops.

4. It is essential that the U. S. have access to information derived from electronic emissions inside of denied areas that, in the present state of the art, can be collected only by electronic reconnaissance over those denied areas. A satellite electronic reconnaissance vehicle is likely to be of great value in this reconnaissance. It is essential that such an electronic reconnaissance vehicle have a wide range of capabilities in order that it may fulfill the requirements expressed in the

National ELINT Requirements List that are appropriate to collection by a satellite. The characteristics required of these vehicles are described in Annex "B". Unfortunately, however, in the present state of the electronic art, these capabilities are likely to be obtained only after a considerable R&D effort. We feel that the information derived from photographic reconnaissance is now, and is likely to be, of greater value and priority than that obtained by any foreseeable electronic reconnaissance system. Even in these circumstances, however, we feel that the information likely to be obtained by electronic reconnaissance would be of such value that the R&D effort to achieve this capability should be carried forward with the highest priority short of interfering with the photographic tasks outlined elsewhere in this paper. In the absence of a fully developed electronic reconnaissance system, and in view of the uncertainties as to what can be collected with interim systems, we are reluctant to specify detailed requirements for the short term that might cause serious disruptions in the R&D effort leading toward the fully developed system. There are important problems, however, toward which electronic reconnaissance could contribute critical information during the R&D phase without serious disruption to that effort. One of the most important of these is the search for emissions associated with an Anti-Ballistic Missile system. These problems are outlined in greater detail in Appendix I to Annex "B". It is probable that from time to time the intelligence situation will require that additional tasks be levied on

the satellite electronic reconnaissance system during the R&D phase. These will be communicated to the proper authorities as they arise.

5. In order for the system to move in a realistic direction and provide the maximum amount of intelligence to the country, it is essential that the R&D phase of the system be guided by and devoted to the intelligence tasks outlined below and to such additional high priority intelligence tasks as may arise from time to time. The intelligence community will review these requirements at frequent intervals as the intelligence situation develops in order that new tasks may be identified and brought to the attention of the R&D authorities at the earliest possible time.

6. At the present time, the U.S. intelligence community maintains a National Priority Reconnaissance Requirements List which identifies

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priority interest. In addition to these specific objectives, information is required on areas that have been inaccessible to other collection systems. It is anticipated that reconnaissance of these areas may reveal the existence of important installations previously unknown.

7. The specific composition of the National Priority Reconnaissance Requirements List will change from time to time as new information is acquired from all sources and as the important intelligence problems facing the United States change. It is anticipated, however, that at any given time within the foreseeable future, our requirements for photographic reconnaissance will approximate the present list in size and variety. Complete and simultaneous coverage of the Soviet Union would not eliminate such a list, even if it were possible to achieve, because the elements of power in the Soviet Union are dynamic and new developments and additions are occurring constantly. Repeat coverage of many of the target areas in the Soviet Union will remain a requirement, therefore, although the number and periodicity of this repeat coverage will vary, depending on the nature of the target and the intelligence situation existing at the time. From an ideal point of intelligence utility, many of the high priority and highest priority targets should be covered at intervals on the order of 1 to 6 months, but the reconnaissance system should have

sufficient flexibility to permit the coverage to be timed to meet the needs of the specific intelligence situation as it develops.

8. The information obtained by the satellite reconnaissance system would be of maximum use in providing strategic intelligence information. In addition to this primary mission, it should provide important by-products in the form of information bearing on indications of Soviet intentions.

9. At the present time, the U. S. Intelligence Board is faced with several outstanding problems which should be considered on a priority basis for system development and employment of the photographic satellite vehicles during the 1961-1962 time period as follows:

a. Our first and most urgent priority requirement is for a photographic reconnaissance system capable of locating suspect ICBM launch sites. It is estimated that many sites for the launching of operational Soviet ICBM's will be completed between now and the end of 1962. It is our strong belief that our best chance to detect these sites will be during the construction phase and that once these sites are completed, we will have considerably less opportunity to detect them. It is important, therefore, that a maximum effort be made to find the Soviet operational ICBM launch sites before the end of 1962. Once any ICBM site is located, a satellite reconnaissance system with adequate ground resolution should be able to maintain surveillance and report changes in its status, but if these sites are not located before the end of the construction phase almost any reconnaissance system would be of considerably less value

against such a target. We believe that if we are to find the Soviet operational ICBM launch sites, our highest priority effort should be directed 25X1

[redacted]

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would need to [redacted] Repetition of this general search at the rate of approximately [redacted] initially would give us a 25X1 relatively high degree of assurance of providing the information required. Read-out of the photography on this frequency would establish trends and priorities for the programming of subsequent search missions. It is expected that the photography will also be used to supplement that obtained by other means for the improvement of mapping and more precise location of targets in the Soviet Union in response to the Emergency War Plans of the Armed Services.

b. If suspicious locations are identified which might be possible ICBM launch sites, these locations will be added to the highest priority category of the National Priority Reconnaissance Requirements List. Our second priority requirement, therefore, is for photographic coverage of the highest priority target category in the USSR, with a photographic system of sufficient resolution to supply us with descriptive information on those targets. It is believed that resolution [redacted] 25X1

25X1 [redacted] is necessary for this requirement. There should be a capability to launch and/or control these missions on-call at short notice to meet the needs of the intelligence situation as it develops.

c. Our third priority requirement is for a photographic system of sufficient resolution to supply us with the technical characteristics of the highest priority targets before the end of 1962. This will require a

25X1 resolution of [redacted]

d. If technological development barriers preclude the design objectives for resolutions described above, the USIB will designate resolutions which are acceptable from an intelligence standpoint.

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1. Photo (Annex "A")
[redacted]

Annex "A"

EXAMPLES OF INTELLIGENCE TARGETS THAT MIGHT BE IDENTIFIED AT VARIOUS RESOLUTIONS

1. The following categories, although not intended to be definitive or comprehensive, are presented for the purpose of giving some idea of object size in the intelligence spectrum which might be identified at the limiting resolutions indicated. This evaluation is considered valid 25X1

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